



**Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.**

## SECTOR 5 — CHART INFORMATION

## SECTOR 5

### CUBA—SOUTH COAST

**Plan.**—This sector describes the S coast of Cuba from Punta Maisi, the E extremity of the island to Cabo San Antonio, the W end.

#### General Remarks

**5.1** The S coast of Cuba extends in a more or less W direction for about 650 miles from Punta Maisi to Cabo San Antonio. Between Punta Maisi and Cabo Cruz, the coastline is a straight line section which is steep-to and backed by a mountainous ridge running parallel to and rising precipitously from the coast.

Generally, the S coast of Cuba is indented by numerous harbors, bays, and a large gulf. A greater portion of the coast of the island is fronted by a chain of islands, islets, and cays. Between the island chain and the mainland, numerous shoals and reefs are penetrated by passages.

Bahia de Guantanamo, Bahia de Santiago de Cuba, and Bahia de Cienfuegos are the major centers of maritime activity on the S coast of Cuba. Santiago de Cuba is the largest city and the most important port; it is located about 100 miles W of Punta Maisi.

Sierra de Purial, to the E, and Sierra Maestra, to the W, form the group of mountain ranges that dominate the coast on either side of the low-lying, rather large, and exceptional plain that surrounds Bahia de Guantanamo.

There is a remarkable series of terraces at the extremities of Punta Maisi and Cabo Cruz.

Some of the more distinctive natural features along this part of the coast are the entrance to Bahia de Guantanamo, El Cobre (W of Bahia de Santiago de Cuba), Pico Turquino (the highest elevation in Cuba), Loma Aquada, and Loma Ojo de Toro (the westernmost peak of the Sierra Maestra).

Several IMO-adopted Traffic Separation Schemes have been established off the coast of Cuba, and may best be seen on the appropriate chart. Navigation within the Traffic Separation Schemes, except the scheme in Old Bahama Channel, will be observed from control posts and vessels. Such posts or vessels shall not call for any information, except in cases involving infringements by shipping within the Traffic Separation Scheme or other types of infringements of national law.

**Winds—Weather.**—See paragraph 4.1.

**Tides—Currents.**—The current along the E portion of the coast sets W, but an E counter current may be encountered close inshore.

Current rates are said to be strong at times, therefore, caution is advised near Isla de la Juventud, Banco Jardines, and Jardinillos. Currents in the vicinity of these dangers frequently set strongly toward them, especially during SE winds.

Between Cayo Largo and Cayo Breton there is usually no current, but a W set with a rate of 1.5 knots has been experienced.

For further information, see paragraph 4.1.

**Pilotage.**—Pilotage is compulsory for all foreign vessels. The vessel should send her ETA to "Mombisas Habana." An ETA message addressed to "Mombisas (name of port)" should also be sent if the vessels first port of call is not Havana.

**Signals.**—Vessels must establish communications with the port signal station, either by VHF channel 16 or visual signals.

**Caution.**—Within 20 miles of Cabo San Antonio, the flow of water is either NE towards the Straits of Florida, or SE, then E along the S coast of Cuba, sometimes reaching 4 knots from Cabo San Antonio to Cabo Corrientes. The set is very dangerous to navigation, and it is advisable to give this section of the coast a wide berth.

#### Windward Passage

**5.2** Windward Passage, the NE approach to the Caribbean Sea, lies between Hispaniola and Cuba, 45 miles to the NW. The channel is free from obstructions and no special directions are necessary if both coasts are given a wide berth.

**Tides—Currents.**—The set through the Windward Passage is SW in mid-channel at a rate which is usually less than 0.7 of a knot, but may attain rates of 2 knots.

Near the coasts on either side of the passage, tidal currents are strong and irregular.

On the E side of the passage, a current sets N at a rate of 0.7 knot around **Pearl Point** (19°40'N., 73°25'W.), but 6 miles offshore the current will set W or WSW.

Close N of Cap du Mole St. Nicolas, the N current meets a constant set flowing along the N coast of Hispaniola and causing ripples.

The W flow from Cap Haitien through Chenal de Tortuga, at a rate of about 1 knot, sets between Rabal and Cap du Mole St. Nicolas. The current gradually increases in strength and inclines towards the land, although at times there is a NE set.

On the W side of the passage a N current sets around Punta Maisi, which is considerably affected by the tides, and whose rate is greatly affected by the wind. During the summer months and with S winds, an E set is experienced, while with N winds, the currents set S.

Frequently, especially during the winter, a W current of considerable strength will be experienced.

**Traffic Separation Scheme.**—An IMO-adopted Traffic Separation Scheme has been established off Punta Maisi and may best be seen on the appropriate chart.

Additionally, an Inshore Traffic Zone has been established between the Western Traffic Separation Lane and the coast.

Vessels not using a Traffic Separation Scheme should avoid it by as wide a margin as is practicable.

#### Punta Maisi to Santiago de Cuba

**5.3** **Punta Maisi** (20°13'N., 74°08'W.), the E extremity of Cuba, has a low-lying shore of white sand and is rounded. The land within the cape begins to rise 0.7 mile from the coast, and

when viewed from the N, appears to form three steps making useful landmarks.

The terrain SW of Punta Pintado becomes progressively steeper and more abrupt.

Punta Maisi is a lee shore open to the affects of the sea and the prevailing E wind. Vessels navigating in the vicinity are cautioned to stand well offshore, and are reminded that if proceeding at night from the S, Punta Maisi Light is obscured to the W of a line bearing 359°. A racon is located on Punta Maisi.

The coast between Punta Maisi and Bahia de Guantnamo, about 62 miles WSW, is rugged and consists of an uneven terrain in which the marine terraces with their steep-sided gorges to the E merge into a series of cliffs and bluffs that, alternating with scattered sandy beaches and continuing to the W, rise inland to the interior mountain range of Sierra de Purial.

Punta Negra (Punta Caleta), about 12 miles SW of Punta Maisi, is a low-lying rocky point which is backed by steeply rising terraces and is reported radar conspicuous at 26 miles.

Also conspicuous is a high, barren white-faced cliff at Salto de Jofo, 9.7 miles W of Punta Negra, that can be seen well offshore.

It was reported that Punta Negra was a very good radar target at 35 miles. Loma Pan de Azucar, a hill about 29 miles W of Punta Negra, is a good landmark that appears alternately as the roof of a house from the ESE and as a sugarloaf from the SW.

The coast between Punta Negra and the meridian of Loma Pan de Azucar lies largely sheltered from N and NE winds, and has a number of anchorages which, open to winds from the S and SE, are available to small vessels with local knowledge.

The principal anchorages are located at Jauco, Bahia Jojo, Bahia de Imias, and Bahia Sabana la Mar.

**5.4 Puerto Baitiqueri** (20°01'N., 74°51'W.) is located 42 miles W of Punta Maisi. It is a very small, well-sheltered pocket bay, and is clearly indicated by the opening between the hills on either side of the entrance.

The bay is only available to small vessels as the entrance channel has a least depth of 3m and is only 15m wide between the reefs on either side. These reefs, awash, cause the sea to break heavily over them and can be seen from 0.2 mile away.

**Puerto Escondido** (19°55'N., 75°03'W.), 6 miles E of the Bahia de Guantnamo entrance, is land-locked and quite deep, but narrow.

It has been reported (1995) that this is a prohibited zone. Special permission is needed to enter.

The coast on either side of the entrance appears as a continuous jagged bluff, and the entrance itself cannot be distinguished until very close to the coast.

A tower is situated on the summit of Mogate Peak, a hill that rises to 158m, 1.7 miles NW of the entrance to Puerto Escondido. A hill close E of the entrance has a well-defined saddle-shaped summit, serving as a useful landmark in identification. Inside, the bay branches into numerous mangrove-fringed deep water inlets that lead off into surrounding fields of drying tidal flats.

It would be very difficult for a vessel of more than 46m in length to turn around in the port.

**Anchorage.**—Vessels anchor in 10.4 to 11.3m, mud, in a position with Inner Entrance Point bearing 193°, distant about 0.3 mile, and in this position commonly ride to a prevailing wind since the current is negligible.

**Directions.**—Vessels intending to enter Puerto Escondido, steer a course of 336° and head for the extremity of a rocky scarp that, lying inside the bay, appears about midway between the sides of the entrance channel. A vessel proceeds through the channel, being guided by the clear water over the sunken dangers and the darker colored water in the channel, and then continues on into the bay.

## Bahia de Guantnamo

**5.5 Bahia de Guantnamo** (19°56'N., 75°10'W.), 62 miles WSW of Punta Maisi, is a spacious, well-sheltered, easily entered, and largely landlocked inlet. The bay is about 11 miles long, divided into outer and inner harbors and reported deep.

**Puerto Guantnamo** (20°00'N., 75°08'W.) ([World Port Index No. 10320](#)) comprises Bahia de Guantnamo inner part and the several berthing facilities serving the community of Guantnamo, the coffee growing center for Cuba, about 8 miles NW.

**Depths—Limitations.**—Regardless of the direction of approach, ships should stay seaward of the 2,000m curve and head for the **Approach Point** (19°51'N. 75°12'W.).

This point is seaward of the 2,000m curve and the S U.S. Naval Reservation Boundary and about midway between Windward Point and Leeward Point on the entrance range.

Then, steer on the entrance range in alignment, bearing 021.5°, for the Entrance Point. The Entrance Point is located on the range line, about 1.1 miles from Windward Point.

The coast is bold and steep-to. The entrance has a muddy bottom and two slight turns. Vessels up to 170m in length, with a maximum draft of 5.7m, can enter the inner port of Boqueron. The outer harbor is accessible to vessels of draft 12.2m.

Tankers are not restricted by length of the pier, but dry cargo vessels which exceed a length of 152m experience difficulties in loading cargo because the stern hold will be out of the pier.

The Boqueron Pier is 152m long with loading drafts on both sides of 5.7m. Molasses operations are carried out on the N side, with bulk raw sugar on the S side. Operations are performed during daylight hours only.

Commercial vessels, though permitted passage through the lower bay, are not permitted to put in there because the entire area constitutes the United States Naval Reservation.

Water is supplied at Boqueron Pier through a pipeline on both sides.

**Aspect.**—Although there are few distinctive landmarks in the identification of Bahia de Guantnamo, a remarkable conical mountain lies about 15 miles to the W of the bay and is a useful mark to vessels making their approach from the S, since as they close the coast the mountain appears more in the shape of a saddle.

The terrain at the entrance to this land-locked inlet is rocky, bold, and heavily scrub-covered. The radar signal is reported to pick up the entrance at 27 miles. A aero radiobeacon operates close SW of Crane Hill.

**Pilotage.**—Pilotage is compulsory for ships engaged in foreign trade, but is not required for ships of the U.S. Navy. Permission to enter the U.S. Naval Reservation boundaries and request for pilotage should be secured in advance of arrival. [See the General Remarks topic at the beginning of this sector for information on Cuban pilotage.](#)

Pilots board off Fisherman Point. Vessels proceeding to the upper bay embark the pilot at Hospital Cay. The pilot boat is a small motorboat marked with the white letter "P" on the bows. Requests for pilots should be forwarded 96 hours before arrival.

Vessels proceeding to Boqueron should forward an ETA off Windward Point to the Commander Naval Station, Guantanamo Bay, and request permission to pass through the bay in order to proceed to Boqueron. Passage is permitted during daylight hours only.

There is a port radio station at Guantanamo Bay.

**Regulations.**—A great portion of Bahia de Guantanamo (Guantanamo Bay within the charted limits of U.S. leased territory) is leased by the United States Government. Concurrent with the limits of this territory, the Guantanamo Bay Naval Defensive Sea Area has been established and is closed to the public.

Full details concerning entry control and application requirements will be found in Title 32, U.S. Code of Federal Regulations, Part 761.

The Navy maintains a Harbor Entrance Control Post which challenges and identifies all ships approaching Guantanamo Bay, logging arrival times. Unidentified ships are reported to the Harbor Police for investigation.

**Signals.**—The Harbor Entrance Control Post operates from the signal station atop a building on **McCalla Hill** (19°55'N., 75°09'W.). Call sign "Port Control" may be contacted on VHF channel 12. Pilots may be contacted on VHF channel 74.

**Anchorage.**—There is anchorage in depths of 13 to 13.7m on the E side of the entrance and also in Joa Bay, in the inner part of the bay.

**Caution.**—Anchorage is prohibited within 0.2 mile of any cable areas. These areas can best be seen on the chart.

**5.6** Between Bahia de Guantanamo and Bahia de Santiago, about 39 miles to the W, the coast is steep-to and clear of off-lying sunken dangers and can be approached in safety to a distance of 1 mile. This stretch of coast can be divided into three distinct profiles.

The first 9 miles has a line of abrupt seaside cliffs backed inland by a line of hills and the low-lying plain extending N and W from Bahia de Guantanamo. The second of the three areas extending W for about 14 miles consists of the E extremity of the Sierra Maestra mountain range, which extends to the sea at the conspicuous (particularly from E and W), sugarloaf hill Morrillo Chico.

The final 16 miles, between Punta Verracos and Bahia de Santiago de Cuba, consists of a series of marine terraces. Explosive dumping grounds lie 16 miles S and 20 miles SE of Punta Verracos as best seen on the chart.

**Anchorage.**—Small vessels will find anchorage in the small and somewhat sheltered coves at Surgidero de Hatibonico, Siboney, and Aguadores. A strong current has been observed to

set to the shore in the general vicinity of Surgidero de Hatibonico.

**5.7 Bahia Daiquiri** (19°55'N., 75°38'W.) ([World Port Index No. 10350](#)) is a small cut in the coast into which Rio Daiquiri flows, 3 miles NW of Punta Verracos.

Although there is no suitable anchorage here, there are a number of mooring buoys in the bay. Daiquiri is connected to the mines and to Santiago de Cuba by railway.

**Depths—Limitations.**—A wharf, with depths of from 3 to 4.6m alongside, is located 0.2 miles ENE of the mouth of the river and is connected to the railway.

**Pilotage.**—Pilotage is compulsory.

**5.8 Santiago de Cuba** (20°01'N., 75°50'W.) ([World Port Index No. 10370](#)) is entered between **El Morro** (Punta Morrillo) (19°58'N., 75°52'W.) and the S part of Punta Socapa, 0.1 mile WNW. The bay is quite spacious, well-sheltered, and landlocked. There are a number of coves and inlets indenting this natural harbor, which is entered through a narrow channel.

**Winds—Weather.**—An E to SE breeze usually blows until about 1000 hours, its intensity increases from mid-day until late afternoon and disappears around sunset.

During the rainy season (May to October), SE winds occasionally make the seas in the approach and entrance heavy, and entering at times could be dangerous. In winter, NW to NE winds are predominant, sometimes alternating with strong S winds.

**Depths—Limitations.**—It has been reported that vessels up to 214m in length and 10.9m in draft can enter during the morning, vessels up to 183m at other times.

Santiago de Cuba, on a hillside at the head of Bahia de Santiago de Cuba, is the second most populated and important commercial port in Cuba. It is the center of a significant mining region.

The port has the capacity to operate many vessels simultaneously, including tankers, bulk grain, dry cargo, and coastal trade vessels. Discharging operations are also frequently carried out at the inner anchorage.

The Luis F. Mena Gil Dock (formerly Malecon) is the largest facility in Santiago. The E berth has a length of 145m with a draft of 6.7m. Cargo handled includes light general cargo, molasses, and petroleum products. The center berth has a length of 145m with a draft of 8.6m. Cargo handled includes bagged raw sugar, general, and heavy cargo.

The W berth has a length of 100m with a draft of 7m. Cargo handled includes bagged raw sugar, general cargo, and lubricating oil. The W extreme berth has a length of 140m with drafts from 6.1 to 7m. Cargo handled includes general cargo and cement.

The 30 de Noviembre Dock includes Berth No. 3, having a length of 163m and a draft of 7.9m, and Berth No. 4, length 163m with a draft of 8.2m. Operations can only be performed during daylight.

The Rolando Roca Pacheco Pier, with a berthing length of 160m on each side, can accommodate vessels up to 170m long, with a maximum draft of 8.3m. The pier is used for general cargo operations.



The Romero Pier has an E side length of 100m with a draft of 4.5m (base), 5.1m (head). Cargo handled includes general cargo, bagged cement, and refrigerated cargo.

The Antonio Maceo Dock is located in front of a modern cold storage house which makes it appropriate for operating refrigerated vessels loading frozen fish. The S side has a length of 221m with a draft of 9.1m. The N side is at present not in operation, as draft work has not yet finished.

The Fabrica de Cemento Dock is used only for loading cement and all operations are performed by trucks.

The Refinery Hermanos Diaz Pier, 240m long, can accommodate vessels up to 214m long, with a maximum draft of 10.9m. It is used for the discharge of oil.

The Frank Pais Pier is used for the discharge of bulk grain. Vessels berth to eight solid dolphins. There is no limitation on vessel length, but the draft is restricted to a 9.1m maximum.

**Aspect.**—The entrance is remarkable in that El Morro, the E entrance point is steep while Punta Socapa, the W entrance is a more gently rising slope. The entrance to the port and channel itself are narrow with some turns.

Closer-in, the massive fortifications standing high on El Morro as well as the lower lying fortifications at Punta Estrella become clear to the mariner.

El Cobre, about 11 miles WNW of the entrance, is a culminating peak within the mountains rising to the W of Bahia de Santiago de Cuba. The entrance, for about 0.5 mile, consists of a rock bottom. From there for about 1 mile, the bottom is muddy, with the remaining 2.5 miles consisting of soft mud.

**Pilotage.**—Pilotage is compulsory. [See the General Remarks topic at the beginning of this sector.](#) Pilots should be ordered at least 12 hours in advance of arrival.

Pilots board vessels 1 mile S of the port which is about 4 miles from the piers; 3.5 miles to the anchorage and 1.5 miles to the Refinery Pier.

**Signals.**—[See the General Remarks section at the beginning of this sector.](#) The pilots, call sign "Santiago Practicos," may be contacted on VHF channels 16 and 13.

For the control of navigation through the narrow channel of the bay, a signal mast stands at the El Morro fortifications. Vessels must establish contact with the signal station prior to entering the channel.

**Anchorage.**—Four anchorage areas are charted. All are considered to have good holding ground. The first is located W of Punta Gorda in the outer harbor. It is used by tankers and can accommodate vessels up to 214m in length and 10.9m in draft.

The second area is located 0.2 mile NE of Cayo Ratones. This anchorage can accommodate two vessels with a maximum length of 153m and draft of 8.7m.

Anchorage area number three is centered 0.8 mile NE of Cayo Ratones. It is capable of accommodating a single vessel with maximum length of 180m and draft of 7m.

Anchorage area four is centered 0.2 mile SE of Punta Buenavista in the inner harbor. It can accommodate a single vessel with maximum loa of 150m and draft of 6m.

Vessels are additionally urged to consult the local authorities and the pilot for information concerning the anchorage berths within the port.

**Directions.**—Vessels with intentions of entering Bahia de Santiago de Cuba steer for the Punta Estrella fortifications on a course of 043°, and proceed in mid-channel through most of the entrance fairway. The channel passes E of Cayo Granma and W of Punta Gorda in the lower harbor. The inner harbor anchorages and berths are reached by continuing the transit NE through the channel. An overhead cable crosses the harbor E and W of Cayo Ratones. The height of the cable is 57m.

**Caution.**—It was reported that works were in progress in Santiago Harbor, N of Cayo Ratones. The coastline and depths may differ from those charted. Mariners should exercise caution in the area.

## Puerto de Santiago to Cabo Cruz

**5.9** The coast between Puerto de Santiago and Ensenada Cabanas 2 miles W is free of off-lying dangers.

From the offing, the narrow entrance is not easy to identify until close-in. The fairway indicates a depth of 2.7m, gradually increasing to depths of 3.7 to 5.5m, shoaling gradually to the shore.

The channel is obstructed with an overhead powerline which has a clearance of 10m.

Anchorage for small vessels is excellent in Ensenada Cabanas, but local knowledge is advised.

Punta Cabrera is located 3.5 miles WSW of the entrance. There is an off-lying bank, with a depth of 22m, reported to lie 7.5 miles S of Punta Cabrera.

**5.10 Puerto Nima Nima** (19°57'N., 75°59'W.) is situated 1.2 miles WNW of Punta Cabrera. A cantilever loading bridge is in ruin in the SE part of the bay. At the head of Puerto Nima Nima, there is a ruined pier which connects to the mines and continues out into 3.7m of water.

A good mark on this part of the coast is a red hill excavated in terraces, located to the W of Puerto Nima Nima, 1.5 miles distant.

Bahia Aserradero indents the coast 9 miles WNW of Puerto Nima Nima. Rio Aserradero flows into this bay.

The wreck of the Spanish cruiser Vizcaya is located in Bahia Aserradero on the W side.

Rincon de Sevilla is situated 3.5 miles W of Aserradero, and Punta Tabacal is located 7.5 miles farther WSW.

Punta Tabacal is the site of a conical hill, comprised of dark wooded slopes and topped by a grassy summit, that rises to an elevation of 129m. This landmark is easily identified from an E direction.

The coast between Bahia de Santiago and Ensenada de Mora, 81 miles to the W, is dominated by the rugged mountainous Sierra Maestra which everywhere rise steeply. Numerous mountain spurs and foothills run down to the sea through a coastal plain that creates numerous pocket valleys, many small coves, and sandy beaches.

**Pico Turquino** (20°00'N., 76°50'W.) is the culminating summit of the Sierra Maestra and is the highest elevation in Cuba. Under favorable weather conditions, the summit can be seen as far away as the coast of Jamaica.

**5.11 Puerto de Chivirico** (19°58'N., 76°24'W.) ([World Port Index No. 10380](#)) is situated approximately 30 miles W of

Bahia de Santiago de Cuba. It indents the coast between Cayo de Damas, located close inshore 1.7 miles W of Punta Tabacal, and a peninsula that extends 0.3 mile from the coast 1 mile W.

There was an ore loading facility at the head of the harbor, but it is in ruins. Extreme caution is advised when entering this encumbered coastal indentation because of the narrow entrance channel and dangerous reef on the W side of the entrance.

**Anchorage.**—Anchorage may be obtained in depths of 12.8 to 16.5m in the center of the port, but with no protection from the S.

Good protection for vessels up to 7m draft can be found to the N of Cayo Damas, but local knowledge is required.

Excellent protection for vessels up to 2.5m in draft can be found in the inner lagoon on the W side of the bay. Local knowledge is required.

**5.12 Puerto Portillo** (El Portillo) (19°55'N., 77°11'W.) ([World Port Index No. 10390](#)), about 45 miles W of Puerto Chivirico, is entered between Punta de Piedras and Punta de Los Farallones 0.5 mile WSW.

The bay is small, much encumbered, and indents a low-lying mountain-enclosed coastal plain. Puerto Portillo can be identified by low, swampy, mangrove-covered land on its E side, and by the three perpendicular white cliffs on its W point.

Buoys mark the limits of the reef on the E and W sides of the entrance channel.

Vessels will find temporary anchorage in 11 to 13m in the entrance to the bay, where they lie open to winds from the ESE and S. Excellent protection for vessels up to 4m in draft will be found by rounding Punta Raza and entering the lagoon to the E.

**Ensenada de Mora** (Pilon Harbor) (19°54'N., 77°18'W.) is a break in the coast between Cayo Blanco, located close inshore 5 miles W of El Portillo, and Punta Hicacos 2 miles farther WSW.

The bight consists of deep water indenting a low-lying coastal plain that for the most part is backed closely inland by the W confines of the Sierra Maestra.

Close NE, Loma Aguada (Aquada Peak) stands at an elevation of 378m and provides an excellent landmark.

Prominent are the cane fields W of the peak. A sugar mill, on the NW shore of the bay, the white spire of a church close N of it, and a water tower with a red tank 1.5 miles NNW of it, are conspicuous.

A radio mast stands bearing about 053°, 1.3 miles from the sugar mill.

The bight is encumbered by numerous parallel ridges of above and below-water dangers that provide relatively well-sheltered anchorage in an inner and outer harbor, and restrict entry to a rather intricate passage having a sharp right-angle turn and a fairway partially blocked by a scattering of rocky heads.

**5.13 Pilon** (19°54'N., 77°19'W.) ([World Port Index No. 10400](#)), on the W side of Bahia de Pilon, is a small community and the site of a sugar mill. The maximum draft for vessels entering this subport of Manzanillo is 6.1m.

**Pilotage.**—Pilotage is compulsory. The pilot boards 1 mile S of Cabo Cruz. Entry into Bahia de Pilon during the daylight

hours affords the mariner a clearer look at the many sunken dangers that can be recognized by a change in water color.

Entry at night proceeds only as far as the outer harbor anchorage.

**Anchorage.**—Deep-draft vessels can be accommodated in a charted depth of 15.5m, clay, in a position in the outer harbor 0.6 mile W of Cayo Pajaro. Vessels drawing less than 6.1m anchor in 8.2m in a position in the inner harbor close E of the alongside berthing facility at Pilon.

**Directions.**—Vessels intending to enter Bahia de Pilon should steer for a point to the S of the outer channel buoy, and then follow the lighted range in passing close W of the buoy.

Once past the buoy the heading is changed to 005°, to pass E of Cayo Pajaro, which is then rounded to the N, thereafter proceeding to the destination.

**5.14** The coast, for a distance of about 24 miles between Bahia de Pilon and Cabo Cruz, meets the sea in a low scarp that is interrupted only here and there by scattered beaches of sand, gravel, or mangrove swamps. Inland, the Sierra Maestra mountains gradually diminish to the W.

Numerous superimposed, bush-covered to heavily forested marine terraces, rise between the scarped shore and the downslope of the Sierra Maestra.

Rio Toro (Rio Ojo del Toro) cuts a remarkable gorge through these terraces before entering the sea about 7 miles W of Bahia de Pilon.

Ojo del Toro, close W of Rio Toro, rises to an elevation of 533m. It is the W peak of the Sierra Maestra and is very prominent. When viewed from the SW, the summit of this mountain appears as two or three hummocks.

## Cabo Cruz to Punta Maria Aguilar

**5.15** The coast between Cabo Cruz and Punta Maria Aguilar, about 172 miles NW, is predominantly low-lying and fronted throughout by a shore of sand, mud, or mangrove swamps that merge inland with extensive level to undulating coastal and interior plains.

Offshore, a shoal water narrow shelf extends to seaward to a remarkably straight line between Cabo Cruz and Punta Maria Aguilar, where it then drops away abruptly to ocean depths.

A large uninterrupted barrier of above and below-water dangers, of which the islet chain Jardines de la Reina is the most predominant, lies on or somewhat shoreward of the line.

The area of water inshore of this barrier is divided into Golfo de Guacanayabo to the SE and Golfo de Ana Maria to the NW by a particularly dense concentration of islets forming Jardines de la Reina 'sSE extremity, and the narrow mainland to the NE.

**5.16 Cabo Cruz** (19°51'N., 77°44'W.) is a low sandy point backed by a forested plain which continues inland as flat tableland rising farther E into the foothills of the Sierra Maestra.

There is a pilot station at the village located at Cabo Cruz, which consists of a few huts and a flagstaff and the lighthouse which is situated to the rear of a large rectangular building.

East of Punta del Ingles, the light is obscured by high land when bearing less than 285°. It is reported the light is also beamed for use by aircraft.

A reef awash, on which the sea breaks heavily, extends 1.5 miles W of the lighthouse. A light marks the outer end of the reef.

**Anchorage.**—Anchorage is available in a depth of 7.3m, sand, NW of Cabo Cruz.

Vessels drawing less than 4m can work in behind the reef to a point just S of the W limit of the mangrove ashore.

## Golfo de Guacanayabo

**5.17 Golfo de Guacanayabo** (20°28'N., 77°30'W.) is a large extensive gulf in the coast lying between Cabo Cruz and Punta de las Angosturas, about 66 miles NNW. The gulf contains many shoals, reefs, and cays with Gran Banco de Buena Esperanza holding a large part of the center. The S end of Gran Banco de Buena Esperanza is almost linked to Punta Colorados by a series of reefs, and there are number of shoals and cays between the N side of the bank and the N shore of the gulf.

The outer edge of the bank, with depths of less than 200m, that extends SW from the entrance to the gulf, is located between Cabo Cruz and the SE end of Laberinto de las Doce Leguas, 53 miles NW.

This is steep-to, with depths of less than 20.0m close within the charted 200m curve.

Numerous channels lead through the groupings of above and below-water dangers and to a lesser extent, the random scattering of islets in Golfo de Guacanayabo.

These channels are affected by silting, caused by the rivers flowing into them or from the effects of hurricanes, therefore, caution is advised at all times.

The level of the sea rises at the head of Golfo de Guacanayabo during the months of September and October from the effects of the S and SW winds.

**Pilotage.**—Pilotage is compulsory. [See the General Remarks topic at the beginning of this sector.](#) Pilots board off either Cabo Cruz or 2.5 miles SW of Cayo Blanco if using Canal de Cuatro Reales. They commonly proceed to the destination by day or night.

It is recommended that a pilot be arranged at least 24 hours before arrival during the day and at least 48 hours prior if arriving at night, otherwise, many hours may pass before the pilot boards.

[See the General Remarks section at the beginning of this sector](#) for the boarding ground off Cabo Cruz. The pilots may be contacted on VHF channels 13 and 16.

For the boarding ground off Cayo Blanco, the pilots, call sign "Castilda Practicos," may be contacted on VHF channels 13 and 16.

**Directions.**—The chart depicts an approach passage that leads close around Cabo Cruz and then bifurcates through Canal de Balandras before continuing on converging tracks to Manzanillo. The shallowest draft limit is 4.2m and in Canal de Palomino draft is limited to the depths of Canal de Balandras or Canal de Madrona.

Canal de Madrona, with a draft limit of 10m, leading from the sea about 17 miles N of Cabo Cruz to Canal de Palomino,

has some sharp turns and narrow passages. At the channel's S entrance, care should be taken to avoid Windward Shoals. Transit of these several passages is advised by day only.

Vessels intending to enter Golfo de Guacanayabo, by way of Canal de Balandras or Canal de Palomino, commonly proceed N from the pilot station at Cabo Cruz, taking care to clear the reef extending from the point.

Proceed so as to pass NW of the drying reef, Colorados de Fuera, between the off-lying shoal Borlon de Tierra and the sunken dangers lying off the mainland point Punta Borlon. Then proceed between the patch Banco Arriola and the mangrove-covered islets Cayos Limones.

Vessels intending to continue by way of Canal de Balandras, steer in mid-channel through Pasa Azuaga and then, in transit of Canal de Balandras, proceed so as to pass in mid-channel between the sunken dangers lying off the low-lying, mangrove-covered islets Cayos Balandras and the equally low-lying, mangrove-covered Cayos Piragua. Thereafter, they steer NW for the low-lying, reef-fringed islet Cayo Perla where, in approaching Manzanillo, they pass either S or N of Cayos Manzanillo.

Vessels intending to proceed by way of Canal de Palomino, after having transited the approach passage, haul N at Banco Arriola and thereafter proceed so as to pass between the shoal patches Banco Orejoncito and Banco Hierba, careful to avoid the 3m patch close SW of Banco Hierba.

Then proceeding between the drying dangers on Banco Ranchito and the low-lying, reef-fringed islet Cayo Palomino, they haul well to starboard and, passing S of the drying reef Banco Fustete, steer NE for Cayo Perla where they continue as described above.

**5.18 Bahía de Niquero** (20°04'N., 77°35'W.), located about 15 miles NE of Cabo Cruz, is a small, largely shoal water bay fronting on the community of Niquero. The bay is entered between Punta Niquero, about 1.5 miles NE of Bahía Guanito pier, and a point 1.8 miles farther N where only small vessels can be accommodated.

**Niquero** (20°03'N., 77°35'W.) ([World Port Index No. 10410](#)) is a sugar port. The tall chimney at the sugar mill is an outstanding landmark. Two miles S of the town, there is a sugar-loading pier 159m in length, with a maximum depth of 7m alongside.

While two vessels may be docked at the same time, it is customary, due to the limited output of the sugar mill, to work one ship at a time.

It has been reported (1997) that the pier has deteriorated and is no longer used.

There are several other minor ports that exist between Bahía de Niquero and Manzanillo. The pilotage area for Manzanillo and all of its subports, including the port of Pilon, begins at Cabo Cruz.

**5.19 Media Luna** (20°09'N., 77°26'W.) ([World Port Index No. 10420](#)) lies about 25 miles NE of Cabo Cruz. It is the site of a large sugar mill where several chimneys are prominent.

This sugar loading establishment has a pier nearby with depths of 4.3 to 5.7m alongside, which in turn is connected by

rail to the town 1.2 miles inland. Close NW of the pier, there is an anchorage in 7.6m of water, but it consists of poor holding ground, soft mud.

Vessels using the pier during winter, when occasional squalls present a danger, should berth alongside with an anchor lying well offshore.

All cargo operations are carried out in the anchorage between Punta Cocal and Punta Manacal, about 1.7 miles offshore. The bay is open to the NW, so operations may be interrupted by winds and swells. This happens more often from April to November during frequent rain squalls.

There are no size nor draft limitations for the anchorage, other than those for the passage of Canal de Madrona, that being a maximum draft of 10m.

**5.20 San Ramon** (20°13'N., 77°22'W.) ([World Port Index No. 10430](#)) is another subport along this part of the coast, situated 31 miles NE of Cabo Cruz. It is a loading place and site of a large sugar mill, marked by a distinctive chimney. San Ramon is fronted by a wooden pier about 201m long, having a depth of about 6.4m at the pier head berth.

Vessels call at Manzanillo first to embark a pilot. Vessels should leave Manzanillo about 0400 hours in order to arrive at San Ramon at 0700 hours. The pilot will remain on board during the vessel's stay. They enter the berth with the port anchor down and swing so as to bring the bow N and the starboard side-to. The stern is made fast to a mooring buoy. With strong N winds, vessels cannot remain in the berth.

**5.21 Cieba Hueca** (20°13'N., 77°19'W.), about 33 miles NE of Cabo Cruz, is also a loading place for sugar.

A conspicuous chimney marks the site of a large sugar mill. Small tankers use a pier in bad condition at Ceiba Hueca.

For unloading fuel, a tanker can be no longer than 98m in length, and for vessels loading molasses, the maximum length is 151m. The maximum draft acceptable at the pier is 5.8m.

The anchorage is used for the loading of sugar and is located about 1 mile NW of the pier. The only limitations at the anchorage is that a vessel should have a maximum draft of 10m, in order to transit Canal de Mandrona.

**5.22 Campechuela** (20°14'N., 77°17'W.) ([World Port Index No. 10450](#)), about 35 miles NE of Cabo Cruz, is a small community and sugar mill site with berthing facilities for small craft only.

**Bahia de Caimanera** (20°21'N., 77°07'W.), about 40 miles NE of Cabo Cruz, is a small coastal indentation and shoal water inlet fronted offshore by the low-lying, reef-fringed, mangrove-covered islets Cayos Manzanillo and backed inland by swamp and low hills. It serves as a harbor for a large fleet of fishing vessels.

The light-colored buildings in Manzanillo, 2 miles to the NE, are remarkable and under favorable conditions visible over Cayos Manzanillo at about 20 miles. The islets themselves become visible 5 miles away.

Vessels anchor in about 7.6m, soft mud, in a position about 0.7 mile S of Cayita, the E islet of Cayos Manzanillo, where they handle cargo by lighters.

They make their approach either N or S of Cayos Manzanillo. Pasa Honda, a passage through Cayos Manzanillo, is not recommended.

**5.23 Manzanillo** (20°21'N., 77°07'W.) ([World Port Index No. 10460](#)), on the hilly slopes at the head of Bahia de Manzanillo, is a small metropolis and transshipment center for sugar, tobacco, and hard wood. It is the port for Bayamo, one of the oldest cities in Cuba.

Madrona Channel has sharp and narrow turns with a soft mud bottom. The maximum draft for vessels entering the channel is 10m. Vessels must await a favorable tide, no tug boat is necessary.

The Palomino Channel has turns less difficult than Madrona Channel. The bottom is soft mud with a maximum draft of 6.1m. No tug boat is necessary. Vessels should enter and sail only during hours of daylight.

**Depths—Limitations.**—All operations take place using barges at the anchorages.

Inner Anchorage No. 1, located in position 20°21'54"N, 77°08'24"W, provides a length of 180m with a draft of 6.4m.

Outward Anchorage No. 2, located in position 20°22'36"N, 77°08'40"W, provides a length of 180m with a draft of 8.5m.

Outward Anchorage No. 3, located in position 20°23'30"N, 77°09'18"W, provides a length of 180m with a draft of 10m.

Cargoes handled at all the above anchorages are the import of general cargo and the export of bagged raw sugar.

A offshore mooring terminal is situated in position 20°21'12"N, 77°10'21"W. Vessels up to 8.5m draft are moored to three mooring buoys by Terminals Mambisas tugboats. Cargoes handled are the discharge of kerosene, gasoline, and diesel oil.

**Pilotage.**—Pilotage is compulsory. The pilot boards at **Cabo Cruz** (19°49'12"N., 77°45'12"W.).

**Anchorage.**—The local authorities and the pilot should also be consulted for information on anchorage grounds for the port.

## Golfo de Guacanayabo

**5.24** Three passages lead in from the open sea. Canal Pitajaya, entered about 29 miles NNW of Cabo Cruz is deep but intricate and narrow. Canal Cabeza del Este, entered about 51 miles NW of Cabo Cruz, is straightway and comparatively deep.

Neither is particularly recommended. Canal de Cuatro Reales, entered about 38 miles NNW of Cabo Cruz, is the principal passage from the sea and gives access to inner passages leading E to Manzanillo, N to Santa Cruz del Sur, and NW to other passages and destinations.

It is comparatively deep, the draft limit is 10.7m and rather straight, but considerably narrowed so that a S setting ebb tidal current can reach a velocity of 3 knots.

Farther within the gulf the ebb sets E.

**Medano de la Ceiba** (20°25'N., 77°59'W.), a very small, low-lying and somewhat scrub-covered flat islet, is remarkable in identification of the seaward entrance to Canal de Cuatro Reales, because it is the S islet in the approach to the passage and the only islet in the area consisting of a dazzling white sand visible at about 5 miles.



Transit of Canal de Cuatro Reales and the several passages adjacent to it is recommended by day only.

Vessels intending to enter Golfo de Guacanayabo, by way of Canal de Cuatro Reales, steer NNW for the low-lying wooded islet Cayo Carapacho and proceed so as to pass between Banco Leviza E extremity and the sunken danger Banco Ceiba.

Haul to starboard and proceed so as to pass midway through the narrow fairway leading between the islets and sunken dangers adjacent to Cayo Blanco (to starboard) and those near Cayo Playa Blanca (to port).

Ease N and continue on to Santa Cruz del Sur. If bound E to Manzanillo, pass N of Cayo Media Luna, enter Canal Media Luna, proceed through Paso de Chinchorro, and continue on to their destination.

Several rather intricate and comparatively deep water passages diverge from Canal de Cuatro Reales and lead NW to Fondeadero de Mordazo or NW to Canal de Pingues, the inner access to an extensive inshore water area farther NW.

Canal Uvero, the most direct passage to Fondeadero de Mordazo, is entered W of Cayo Carapacho but is not recommended.

Canal Levisa, similarly entered to the W of Cayo Carapacho, is a circuitous passage to the same anchorage.

Its initial reaches also form the S branch of a passage to Canal de Pingues by way of Canal Rancho Viejo. The N branch of this passage leaves the inner reaches of Canal de Cuatro Reales, passes S of Fondeadero de Mordazo, transits Outer Mate Passage, and joins the S branch before continuing on to Canal Rancho Viejo and Canal de Pingues.

**San Juan Anchorage** (20°38'N., 77°57'W.), situated about 49 miles NNW of Cabo Cruz, is quite spacious and well-sheltered. This body of water is entered from the S by way of Canal de Cuatro Reales. Vessels anchor in 7.3 to 12.2m with a good holding ground, mud and shells.

**5.25 Santa Cruz del Sur** (20°42'N., 77°59'W.) ([World Port Index No. 10490](#)) is a small port community on the NW shore of Golfo de Guacanayabo, with a substantial fishing fleet.

**Depths—Limitations.**—Entry is allowed in daylight only. Cuatra Reales Channel, the entrance channel, is 45m wide with a depth of 10.7m.

Accommodations consists of a pier at Guayabal which can handle two large vessels with a maximum draft of 9.8m. A pier at Santa Cruz is for small craft only. At Manopla, vessels load at anchor from lighters in depths ranging from 7.9 to 12.1m.

**Pilotage.**—The pilot boards at the entrance of the Cuatra Reales Channel. Pilotage is compulsory.

**Anchorage.**—The local authorities and the pilot should be consulted for information on anchorage.

**Muelle Manopla** (20°43'N., 77°52'W.) ([World Port Index No. 10480](#)) is the subport of Santa Cruz del Sur and is situated E of Santa Cruz about 6.5 miles. This transshipment center is approached through Canal Media Luna and Bayameses Passage. Vessels anchor in a 1 mile wide area in the latter passage where the bottom is of soft mud.

## Golfo de Ana Maria

**5.26 Golfo de Ana Maria** (21°25'N., 78°40'W.) is part of a broad coastal indentation or bight lying between Punta de las Angostura (Punta Palizon) and Punta Maria Aguilar, about 112 miles WNW. The coast is similar to that of Golfo de Guacanayabo in that it is low-lying and consists of a muddy shore, overgrown with mangroves.

Behind the shore is a plain, largely sown in sugar cane. In the far WNW, the coast gradually rises into the foothills of the mountainous Sierra de Saneti Spiritus and Sierra de Trinidad. Conspicuous along this coast is Loma de Banao, one of the highest peaks in the chain of the Sierra de Sancti Spiritus and Pico Porterillo, the summit peak of Sierra de Trinidad.

The offshore area of Golfo de Ana Maria is an extensive isolated shoal water shelf, limited seaward by the steep-to, reef-fringed, low-lying, and mangrove-covered islet chain Jardines de la Reina which, extending some 70 miles and including the islets Laberinto de las Doce Leguas, is continued by a line of sunken dangers to Punta Maria Aguilar and joined by a multitude of islets to Punta de las Angosturas.

Inside these barriers, the offshore area is somewhat obstructed by a considerable scattering of above and below-water dangers, particularly in the far ESE and WNW portions. Since the bottom consists of a very soft mud that readily discolors the water and obscures sunken dangers, mariners are advised to exercise particular caution when navigating the area.

Golfo de Ana Maria is entered from sea through access of a number of passages that lead through the offshore barriers and then continue on to the diversified ports on the mainland.

The principal passages are Canal de Breton (leading to Jucaro and its jurisdictional adjuncts Ensenada de Santa Maria, Ensenada Boca Grande, and Palo Alto), Canal Tunas (leading to Tunas de Zaza), and Canal del Jobabo (leading to Casilda). Other passages exist but are not recommended. An inner passage leads from Golfo de Guacanayabo by way of Canal de Pingues.

**Pilotage.**—Pilots board at the seaward entrance to Canal de Breton, Canal Tunas, and Canal de Jobabo. It is compulsory to take a pilot and vessels must proceed to their destination during daylight hours only.

Vessels proceed directly to Tunas de Zaza and Casilda which are the sub-ports to the harbor administration for Bahia de Cienfuegos, but must call at Jucaro first before continuing on to Ensenada de Santa Maria, Ensenada Boca Grande, or Palo Alto.

**5.27 Canal de Breton** (21°10'N., 79°30'W.) is entered at about 127 miles NW of Cabo Cruz, and is the principal access to Golfo de Ana Maria for vessels of deep draft.

It is also the passage recommended for vessels who are coming from the E and heading to Jucaro. It leads in over a sand and coral bottom, and can accommodate vessels drawing up to 8.8m.

The E side of the Canal de Breton entrance is marked by Cayo Breton, low, mangrove-covered, and not particularly remarkable. The Cayo Breton Lighthouse is at the W end of Cayo Breton. It is fronted seaward by a steep-to barely awash reef that breaks in a seaway, but is difficult to make out in calm

weather. The conspicuous remains of a white concrete tower stand on the W end of the reef. A racon is operated here.

Vessels anchor in 7.3m, good holding ground, in a position sheltered from E winds with Cayo Breton extremity bearing 076°, at a distance of about 2.2 miles.

Vessels bound for Jucaro and intending to transit Canal de Breton, steer for the summit of Sierra de Sancti Spiritus on a heading of 354°, and proceed so as to clear the dangerous reef fronting Cayo Breton.

When Cayo Breton Light bears 098°, distant 4 miles, they haul to starboard and proceed through Canal de Breton, exercising care to clear the 8.6m reported obstruction in the inner reaches of the fairway.

Thereafter, they continue through the extensive sound Pozo la Vela and transit Canal Manati, the passage W of the two reef-fringed islets Medanos de Manati.

Vessels drawing less than 7m, proceed directly to Jucaro anchorage at Cayo Guinea.

Deep-draft vessels steer in deeper water along a dog-legged track that passes close N of the dangerous reef Bajo Charcas. Vessels proceeding to the inner passage from Canal de Pingues, pass S of Bajo Charcas and S of Cayos Ana Maria, a scattering of islets SE of the Jucaro anchorages.

**5.28 Jucaro** (21°37'N., 78°51'W.) ([World Port Index No. 10500](#)), about 123 miles NW of Cabo Cruz, is a small community and is reported (1995) an inactive transshipment center for the larger island community Ciego de Avila.

Entrance to Jucaro is through Breton Channel during the day or at night. The bottom is rocky sand and has no turns. The maximum draft is 8.8m with no length limitations.

**Pilotage.**—The pilot boards vessels at the entrance to Breton Channel in position 21°08'18"N, 79°30'24"W. Services should be requested in advance.

**Anchorage.**—Work takes place at three anchorages, between 5 and 7 miles S of the town, which handle the export of bagged refined sugar.

Anchorage No. 1, located 0.5 mile S of Obispito Cay, has a depth of 7.3m with no length limitations.

Anchorage No. 2, located SE of Obispito Cay, has a depth of 8.2m with no length limitations.

Anchorage No. 3, located 1 mile E of Obispito Cay has a depth of 9.1m with no length limitations.

**5.29 Ensenada de Santa Maria** (21°16'N., 78°31'W.) ([World Port Index No. 10493](#)), a shoal water coastal indentation about 28 miles SE of Jucaro, has the facilities for the transshipment of sugar by lighters to vessels lying at anchor offshore in 7.3 to 8.8m, mud. Loading operations can become impeded from a wind driven swell at the anchorage.

Ensenada Boca Grande, which is located 11 miles ESE of Jucaro, is a small shoal water inlet with facilities for the lightening of sugar to vessels at anchor offshore to the S in 7.3 to 8.8m, mud. The mouth of the port is marked by a lighted beacon.

**5.30 Palo Alto** (21°36'N., 78°58'W.) ([World Port Index No. 10510](#)) is a subport of Jucaro, but only a small community. Conspicuous at Palo Alto is a chimney that stands near a municipal lighterage pier.

The port can only accommodate vessels up to 500 gross tons. A buoyed dredged channel leads to the pier.

Arrecife Palo Alto, awash near its S end, lies 2.25 miles S of Palo Alto. In addition to the chimney at Palo Alto, there are four prominent gray molasses tanks.

Anchorage is secured in 6.7m, 2 miles SSE of the municipal pier, or in 9m 4 miles from the pier, SE of Arrecife Palo Alto.

**5.31 Canal Tunas** (21°31'N., 79°40'W.), entered about 148 miles NW of Cabo Cruz, is a secondary access to Golfo de Ana Maria and a straight passage from the open sea available to vessels drawing no more than 6.7m.

It lies in the entrance to the most direct approach to Tunas de Zaza and at the W extremity of the recommended passage to Jucaro for vessels, of suitable draft, coming from the W.

Cayo Zazo de Fuera, a low-lying heavily wooded sandy islet, is conspicuous and the first above-water land area SE of Canal de Tunas. Cayos Machos de Fuera, equally low and wooded, lie some 14 miles WNW and constitutes the first islet on the opposite side of the passage.

A sunken danger, with depth unknown but with boulders clearly visible, is reported to lie about 6.75 miles WSW of Cayo Zaza de Fuera.

**Aspect.**—The following landmarks are useful in the approach and transit of Canal de Tunas in order of appearance: Lomas del Obispo, the detached NE peaks of Sierra de Sancti Spiritus, Cayo Zaza de Fuera, Cayo Blanco de Zaza light, the tall chimney standing in Central Siete de Noviembre (Central Natividad), and a sugar mill about 4.5 miles ENE of Tunas de Zaza.

**Directions.**—Vessels destined for Tunas de Zaza or Jucaro and intending to transit Canal Tunas proceed to a position about 9.5 miles WNW of Cayo Zaza de Fuera.

Then, steering an ENE course, they transit Canal Tunas and proceed until Cayo Blanco de Zaza Light bears 351°, distant about 3 miles, then they either haul to starboard, join the track N of Canal Manati and continue on to Jucaro, as described under Canal de Breton in [paragraph 5.27](#), or they haul to port and continue on to Tunas de Zaza.

If the latter, they steer for the Central Siete de Noviembre chimney and proceed until Cayo Blanco de Zaza light bears 305°, wherein, they haul N and continue on to Tunas de Zaza anchorage.

**5.32 Tunas de Zaza** (21°38'N., 79°33'W.) ([World Port Index No. 10520](#)), about 149 miles NW of Cabo Cruz, is a small community for the transshipment of sugar by lighters to vessels lying anchored offshore.

Anchorage at **Tunas de Zaza** is in 21°37'N, 79°34'W, between Cayo Blanco de Zaza and Punta Ladrillo, a low swampy mainland point on the W side of the entrance to the river Rio Zaza. Vessels anchor in about 7.6m, mud and sand, in a position one mile W of Punta Ladrillo.

**Canal de Jobabo** (Canal de Este) (21°38'N., 79°52'W.) is entered about 161 miles NW of Cabo Cruz, the principal passage to Casilda.

Canal des las Mulatas, about 7 miles farther NW, should not be used due to its shallow depths. Canal de Jobabo is quite deep and is entered straight from the open sea into an intricate and narrowed inner passage having a least depth of 7.5m, in the

dredged channel through Ensenada de Casilda to the facilities at Casilda.

Cayo Blanco de Casilda, marked by a light, on the W side of the entrance to Canal del Jobabo, is a reef-fringed wooded islet of white rock and sand that rises to an elevation of about 7m on its SE side and has the appearance of a wedge when seen from the SW.

A largely uninterrupted line of awash and sunken dangers extends from the islet NW to Punta Maria Aguilar.

Banco Cascajal on the E side of the entrance, a shoal water sandbank, continues NE to the mainland. Vessels awaiting a pilot may anchor in 7.3 to 8.8m, sand, in a position ESE of Cayo Blanco de Casilda, distant 1.3 miles.

**Anchorage.**—Several anchorages are available within the area limited seaward by the sunken dangers extending NW and NE from Cayo Blanco de Casilda. Fondeadero Jobabo, 2.5 miles NNE of Cayo Blanco de Casilda, has good anchorage in about 12 to 14m, mud, for vessels either loading cargo or not required to proceed on to port.

Anchorage is secured in the Casilda outer roadstead, about 5 miles NNW of Cayo Blanco de Casilda, between Cayo Guayo and Cayo Tobacco, in 9.5m, mud bottom. Casilda inner roadstead, just inside the entrance to Ensenada de Casilda, has good anchorage in 7.3m with swinging room sufficient for only one small vessel.

**5.33 Casilda** (21°45'N., 79°59'W.) ([World Port Index No. 10530](#)), situated close E of Punta Maria Aguilar, is the port for the small inland metropolis of Trinidad.

Principal imports are general cargo, wood pulp, caustic soda, wood, petroleum, and crude oil. Principal exports are bagged raw sugar, refined sugar and alcohol.

The entrance channel to the port has a muddy bottom with a very dangerous S-shaped turn. Vessels may enter or depart with a maximum draft of 7.6m and a maximum length of 170m.

**Depths—Limitations.**—There is an L-shaped pier, the W side of which is 158m and the S side (tanker pier) is 119m. Both sides can handle vessels up to 170m, with a draft of 7.6m on the W side and 7m (bow), 7.3m (stern) on the S side. Vessels may enter or leave during daylight hours only.

**Pilotage.**—The pilot boards vessels in position 21°37'36"N, 79°52'32"W, which is 1 mile SW of the Blanco Cay Lighthouse.

## Punta Maria Aguilar to Bahia de Cochinos

**5.34** The coast between Punta Maria Aguilar and Bahia de Cochinos, about 67 miles WNW, contains the mountainous Sierra de Trinidad and Sierra de San Juan which rise directly from the shore and contrast markedly with the low-lying, swampy plain backing the remainder of the coast.

The area offshore falls away abruptly to considerable depths from a largely uninterrupted low-lying coastal scarp, and thereby differs significantly from the broad shoal water isolated shelves that exist to the E and W.

**Banco de Jagua** (Banco Xagua) (21°35'N., 80°40'W.), lying well offshore and to the E of Banco de los Jardines E extremity, is an isolated shoal water patch of coral that rises steep-to in the seaward approaches to destinations on the mainland.

It can be seen by day at a distance of about 1 mile and thereby presents minimum danger. At night, it must be considered very dangerous and negotiated with caution.

**5.35 Bahia De Cienfuegos** (22°07'N., 80°29'W.) is a spacious harbor, midway along the arc that characterizes much of the Cuban S coast. The harbor is unique in that it is the only pocket bay on the entire Cuban coast that has an entrance with a maximum depth greater than 61m.

It is surrounded by a level to undulating terrain, particularly to the E where large tracts of land are sown to sugar cane, and fronted in its entrance and along its W side by low, wooded hills that rise abruptly from the shoreline in a series of low scarps. In the immediate approaches to the offshore area, there are no dangers.

**Tides—Currents.**—Tidal currents average 1 to 2 knots during the dry season and can increase to 4 knots during the wet season, particularly on the ebb when rainwater run-off adds to tidal action. Transit during the ebb tide is recommended.

**Aspect.**—In the identification and approach to Bahia de Cienfuegos, Punta Colorados Light, on the E side of the entrance to the bay, is considered to be the best marker. Pico La Cuevita, 15.5 miles ESE, is an excellent landmark and has a sharp conspicuous crest which when seen from the W, appears as the highest peak of Sierra de San Juan, since it largely obscures the actual summit Pico San Juan.

Loma Guamo, about 6 miles NNW, is an irregular peak and useful mark for determining position offshore when plotted together with Pico la Cuevita and the light at Punta Colorados.

Bahia de Cienfuegos entrance is a comparatively short, exceptionally deep, and considerably narrowed, dog-legged passage having an abrupt right-angle turn at Punta Pasa Caballos, about two-thirds the way along its length.

Leading lights have been established in the entrance to Bahia de Cienfuegos.

**Pilotage.**—Pilotage is compulsory. Pilots board vessels 1 mile WSW of Los Colorados lighthouse. Service is available 24 hours a day.

It was reported that a whirlpool is formed at Pasacaballos turn, during the rising tide, making navigation very difficult.

Transit during the ebb tide is recommended and a 24 hour watch is maintained.

If vessels must wait until the pilot comes out, they are advised to lie to in such manner as to compensate for a general W set in offshore currents.

**Regulations.**—Inbound vessels have the right of way in the entrance channel. At the signal tower of Castillo de Jagua, a red flag is hoisted to indicate an inbound vessel is heading for the entrance channel.

When an inbound vessel is midway between Punta del Diablo and Punta de Pasacaballos, a long blast should be sounded on the whistle or siren.

An outbound vessel should sound a long blast when 0.5 mile NNW of Cayo de Carenas. If there is an inbound vessel in the channel, the outbound vessel must wait for the inbound vessel to clear the channel.

**Directions.**—Vessels bound for Bahia de Cienfuegos and coming from the E are advised to proceed with caution when standing along Jardines de la Reina and associated dangers; if

coming from the W they proceed with caution so as to clear the off-lying Banco de Jagua.

They transit Bahia de Cienfuegos entrance in mid-channel as far as Punta Pasacaballos, where the sharp turn NNE must be negotiated with care, particularly when currents set seaward and bear full on the starboard bow.

Vessels are advised to have the anchor ready to let go and, if need be, to run a line to a warping post standing on Punta Pasacaballos in order to heave the bow up into the current.

When clear of Punta Pasacaballos, they proceed so as to pass W of Cayo Carenas, then fair between the sunken danger Banco Gorda and the spit lying off the mainland point Punta Ladrillos, wherein, they continue on to their destination. Cienfuegos is a port of entry.

**5.36 Cienfuegos** (22°09'N., 80°27'W.) ([World Port Index No. 10540](#)), about midway along Bahia de Cienfuegos's E side, is the principal sugar transshipment center for the Cuban S coast.

**Depths—Limitations.**—Vessels drawing up to 11.9m and with a length of 225m may enter through the channel.

At the entrance there are two sharp turns, at Pasacaballos and the W part of Cayo Carenas. For vessels over 207m, it is recommended that they enter during daylight, slack water, and with the aid of two suitable tugboats.

The port can be entered by inbound vessels anytime day or night, but due to strong tidal currents at the Pasacaballos turn, larger vessels, greater than 4,000 dwt, should sail only during slack water.

The Tricontinental Pier is located SE of Ramirez Cove. It is 207m long and 43m wide. The E side has a depth of 10.5m and is specially conditioned for the loading of bulk raw sugar. The berthing length of the E side is 165m long. The W side has a depth of 10.5m and is used for the discharge of cereals.

The Pablo E. Guzman Pier is located E of Punta Arenas. The W side (E side, out of service) is 186m long with a depth of 8.8m (bow), 9.1m (stern). Berthing operations can be performed only during daylight hours. This pier is used for the discharge of petroleum products and supplying diesel oil.

The Citric Dock, Berths No. 3 and 4, have lengths of 140m with a depth of 9.7m (Berth No. 3) and 9.4m (Berth No. 4). The dock is situated E of the Tricontinental Pier.

Berth No. 5 is still under construction.

The Molasses Terminal Berth is situated S of Point Arenas. Vessels berth to four dolphins and two mooring buoys. Docking is effected only during daylight hours.

The ICP Submarine pipeline is situated E of Point Majagua. Vessels berth to three mooring buoys aft to discharge fuel oil, draft of 11.5m.

The Olimpia Medina Pier is situated at Marsillan Cove. Berth No. 1 has a length of 170m with a depth of 7.9m. Berth No. 2 has a length of 170m with a depth at the E end of 7.6m and 7.9m at the W end. Berth No. 3 has a length of 170m with a depth of 5.7m.

The Fertilizers Plant Submarine Pipeline provides berthing operations only in daylight. Vessels berth to three mooring buoys aft and one buoy forward to discharge naphtha, depth of 9.4m.

The Thermoelectric Plant Submarine Pipeline provides berthing operations only in daylight. Vessels berth to three

mooring buoys aft and one forward to discharge fuel oil, depth of 10.9m.

**Anchorage.**—Cienfuegos has excellent anchorage and will accommodate the largest vessels ever likely to use the port.

The North Anchorage has a soft mud bottom with a minimum depth of 12.1m. It is used for awaiting berths, bunkers, water, and also can be used for the discharge or loading of cargo by means of barges.

The General Anchorage is situated in the middle of the entrance to Ensenada Marsillan and has a soft mud bottom.

The maximum depth is 10.9m and is also used for awaiting berths, bunkers, water, and provisions. It can also be used for the discharge or loading of cargo by means of barges.

The Quarantine and Explosives Anchorage is situated 0.5 mile off Point Barril, and has a minimum depth of 15.2m. The bottom is soft mud, which provides a good holding ground.

**5.37 Bahia de Cochinos** (22°07'N., 81°10'W.) is the deepest and most extensive of all the sleeve-like inlets indenting the Cuban coastline, having depths of over 200m throughout the greater part of its area.

It is reported (1995) that the area is a prohibited zone. Special permission is needed to enter.

Inland, the terrain is low-lying and flat and consists of a level and largely swampy plain with many areas scattered with dense brush, particularly at the shoreline.

Offshore, its W entrance point at Punta Palmillas is extended seaward to the low-lying islet Cayo Piedras by a shoal water spit that forms the only known danger in the immediate approaches.

Playa Buenaventura lies at the head of Bahia de Cochinos where it is the only community of any significance within the inlet.

There is anchorage near the inlet, but it is reported to be not safe.

**Caution.**—The buoyage system entering or leaving Playa Buenaventura cannot be relied upon because of the changing characteristics.

## Bahia de Cochinos to Cabo San Antonio

**5.38** The coastline between Bahia de Cochinos and Cabo San Antonio, about 210 miles to the W, is irregular and much indented. Inland, the terrain is low and consists of a level to rolling plain that is very swampy to the E, particularly Peninsula de Zapata) extensively fringed by mangrove and mud beaches in the middle areas, and densely forested to the W, particularly Peninsula de Guanahacabibes.

Offshore, Golfo de Batabano and its E extension to Banco de Jardinillos are co-extensive with a broad shoal water insular shelf that fronts much of the coast and has its limit seaward marked by Archipelago de los Canarreos and associated islands and islets. Isla de la Juventud is the largest of these off-lying islands.

Nueva Gerona, on the N side of Isla de Pinos, and Surgidero de Batabano, on the N side of Golfo de Batabano, are the only communities of interest to ocean shipping.

**5.39 Isla de la Juventud** (Isla de Pinos) (21°40'N., 82°50'W.), the largest of the islands lying off the Cuban coast,



is generally quite flat. The S part is very low, swampy, densely wooded, largely uninhabited, and almost completely separated from the N part by the swamps and mangroves of Cienaga de Lanier. The N two-thirds has a wide, very flat coastal plain that merges with a scattering of high, often heavily forested interior hills.

Loma la Canada, the highest of these interior elevations, is the first sighted from the S; from the W, it appears as a domed summit flanked by two sharp peaks. Loma Daguilla (Aguila), the highest peak on the E side of the island, 186m high, appears from the SE as a steep-sided isolated hill.

Cayos Jardines are the numerous islets lying scattered E of Isla de la Juventud for a distance of about 67 miles to the tourist islet Cayo Largo. They are continued farther to Cayo Guano del Este, a group of high, closely spaced barren rocks, constituting the easternmost above-water danger fronting this section of the coast.

**Cayo Avalos** (21°33'N., 82°10'W.), a small sandy islet about 22 miles E of Isla de Pinos, has good anchorage in 8m, sand and rock, in a position sheltered from all but W and SW winds, with Cayo Avalos Light bearing NE, distant about 1.7 miles. Vessels make their approach with the light bearing between 045° and 070°, so as to pass NW of the drying rock Sambo Head.

**5.40 Ensenada de la Siguanea** (21°38'N., 83°05'W.), on Isla de Pinos' W side, is spacious, quite unencumbered, and comparatively deep-water inlet having its seaward entrance between Punta Frances, the low-lying mangrove-covered W extremity of Isla de Pinos, and Cayos los Indios, a group of low-lying heavily wooded islets that give a measure of shelter from the W.

The inlet is a commodious anchorage with good holding ground wherein vessels lie according to draft.

Vessels with a draft too great to enter, anchor in the entrance W of the meridian of Punta Frances where unexpected rips may occur in consequence of a difference in tidal conditions existing at sea and inside the inlet.

**Pilotage.**—Pilotage is not compulsory, but advisable. Pilots board off Punta Frances.

**Anchorage.**—A quarantine anchorage is established about 3.5 miles NW of Punta Frances, for vessels drawing 6.5m or less, in good weather, when transporting animals to a quarantine center nearby.

**Directions.**—Vessels, intending to enter Ensenada de la Siguanea and making their approach from the S or SW, proceed so as to pass no less than 2.3 miles NW of Punta Frances before hauling into the entrance. If approaching from the W, they steer for Loma la Canada on a heading of 084°, transit the entrance, and continue on to anchorage according to draft.

Vessels, having entered Ensenada de la Siguanea and bound for destinations on Isla de Pinos N side, steer when the isolated hill **Loma Solado** (Solado Hill) 21°45'N, 83°02'W, bears 052°, distant about 6.5 miles.

When the low-lying, sandy point Punta Buenavista comes abeam to starboard, they haul NNE and maintain a position in deep water by means of cross bearings on the several landmarks available.

**5.41 Nueva Gerona** (21°53'N., 82°48'W.) ([World Port Index No. 10550](#)) is a small community lying somewhat inland on the N side of Isla de la Juventud. It is the principal community on the island.

**Anchorage.**—There is anchorage in 6.7m, sand, in a position NE of the entrance to the river leading to Nueva Gerona, with Punta Columbo bearing 166° and Punta de Salimas bearing 115°.

**Golfo de Batabano** (22°15'N., 82°30'W.) lies between the mangrove-fringed island Cabo Diego Perez and Cabo Frances, about 142 miles to the W, and includes the greater part of the extensive, largely shoal water shelf confined between the mainland and the numerous islands and islets ranging E and W from Isla de Pinos.

Banco de los Jardines and its E extension Banco de Jardinillos continue the shelf to the E and, together with Cayo Diego Perez, constitute the steep-to W limit of Golfo de Cazones, a large deep-water arm of the sea that interrupts the coast and its off-lying dangers some 10 to 15 miles W of Bahia de Cochinos, and which in its inner part becomes much encumbered by a remarkably circular scattering of sunken dangers.

Surgidero de Batabano, on the N side of Golfo de Batabano is the principal center of interest to shipping.

**Tides—Currents.**—Tidal action is negligible. Currents and water level are considerably influenced by the wind.

A NE wind lowers the level while the more common SE wind raises it. Extreme lows occur with a NW wind, while extreme highs occur with SW wind.

Currents outside Golfo de Batabano can become a concern since a strong NW set has been experienced toward the dangers between Banco de Jardinillos and Isla de Pinos. This is particularly the case with SE winds.

A number of passages lead into Golfo de Batabano from Golfo de Cazones and the open sea. All are shallow or very nearly so, and all are quite intricate and require local knowledge for their transit. Pilots are available off Bahia de Cienfuegos, Isla de Pinos, and Cabo Frances.

The principal passage to Surgidero de Batabano, with a least depth of about 4m, leads through Ensenada de la Siguanea W side and wanders to its destination for a total distance of about 115 miles.

**5.42 Surgidero de Batabano** (22°41'N., 82°18'W.) ([World Port Index No. 10560](#)) is a community fronted SE by a partially sheltered roadstead having good anchorage in 6.4m. The anchorage is exposed to SE winds, common between July to October.

Cargo is handled from lighters.

Ensenada de Cortes, in the far W reaches of Golfo de Batabano, is a sizable, largely unencumbered coastal bight greatly obstructed seaward by a scattering of sunken dangers formed by the islands and islets extending W from Isla de Pinos.

It is entered by means of a narrow passage leading close W of a partially submerged sunken wreck charted about 12.5 miles NNE of Cabo Frances. Vessels anchor in 6.7 to 10m, good holding ground, in position within the bight or in 6.4 to

14.6m, in positions S and SE of the partially visible entrance wreck.

**Aspect.**—The coast between Cabo Frances and Cabo San Antonio, about 51 miles to the W, is quite flat and either densely forested or heavily brush covered. Low-lying bluffs and sand cliffs, with few exceptions, rise steeply from a shoreline fronted throughout by a shoal water coastal margin which, commonly extending about 0.5 mile offshore, drops away abruptly to ocean depths.

Ensenada de Corrientes (Bahia de Corrientes), closer to Cabo San Antonio than Cabo Frances, is a large, exceptionally deep-water coastal indentation or bight fronted throughout by a narrow, shoal water coastal bank unencumbered by few known dangers.

Cabo Corrientes, the E entrance point, is low and sandy and remarkable for the broken coral scattered inland as though a

stone wall in ruins. The point is reported radar conspicuous at about 19 miles.

**Surgidero de Corrientes** (Corrientes Anchorage) (21°47'N., 84°31'W.) is an open roadstead lying close offshore between Cabo Corrientes and Punta Caiman, a point about 2.5 miles N consisting of conspicuous black rocky cliffs higher than the surrounding coast. Vessels anchor in 12.8 to 16.5m, sand and coral, in a position well-sheltered from prevailing NE winds, with Cabo Corrientes bearing 155° and Punta Caiman bearing 013°. A light is shown from Cabo Corrientes.

If making their approach from the W early in the day when the sun tends to obscure landmarks, they may be guided to their destination by noting the marked contrast in water color as they come onto the coastal bank.

The anchorage is exposed to S and SW winds. A strong current sets S through the anchorage.